Col. 10, line 48) voltage is applied to the 2 spaced electrodes and the dielectric is a lossy dielectric (e.g., "tissue" T stated in Truckai et al. Col. 10, line 55) the resulting electromagnetic energy field will cause a relatively large amount of "Dielectric-Heating" to take place.

"Dielectric-Heating" is defined in Webster's Ninth New Collegiate Dictionary as "the rapid and uniform heating throughout a nonconducting material by means of a high-frequency electromagnetic field." More particularly, as known in the art, during each first half-cycle of the high-frequency electromagnetic field electrons of each atom of a lossy dielectric are moved in one direction with respect to the nucleus thereof and during each second half-cycle of the high-frequency electromagnetic field electrons of each atom of the lossy dielectric are moved in the opposite direction with respect to the nucleus thereof. It is this back-and-forth motion of the electrons that results in a significantly greater heating of a lossy dielectric (such as tissue T) than the I^2 heating thereof.

From the foregoing, it is apparent that the 500 kHz voltage applied to electrodes 14 produces an electromagnetic field that is effective only over the localized region of tissue T shown in FIG. 18, 19A, 19B or 19C of Truckai et al. (described in their Col.11, line 13). It should be noted that Truckai et al. both here and in the brief description of FIG. 18 (Col. 3, lines 39-42) uses the term "energy fields" and never energy (i.e., electromagnetic) waves.

Further. it is pointed out that the frequency band of the electromagnetic waves to be transmitted or to be received determines the design dimensions of an antenna to be used in such transmission or reception. There is nothing in Truckai et al. to possibly suggest that any such a relationship exists between the dimensions of their electrodes 14 and their 500 kHz voltage applied to electrodes 14.

For all the above reasons, the final rejection of Claims 1 and 2 under 35 U.S.C. 102(e) as being anticipated by Truckai et al. should be withdrawn.

The Examiner relies on the recitation in Col. 5, lines 58-68 of Kasevich et al. that plaque may be heated to a temperature of 400°C.-500°C. to ablate the plaque in support of her final rejection of Claims 1-10 and 17 under 35 U.S.C. 103(a). Col. 5, lines 58-68 are included in the description of the structure and function of FIG. 14 of Kasevich et al., which extends all the way from Col. 5, line 58 to Col. 6, line 34. As described therein and shown in FIG. 14, for those cases where the artery is fully blocked by plaque, the

catheter is inserted in the artery with the balloon deflated and tip T at the distal end of the catheter is heated to the 400°C.-500°C. temperature to melt and remove some of the plaque (without heating of artery wall tissue). Thereafter, the balloon is inflated and the microwave angioplasty is carried out at a temperature substantially below 400°C.-500°C. In this regard Kasevich et al. Col. 5, lines 14-22 state, "In accordance with the present invention, the antenna system is to be designed to deliver microwave energy to a specific layer of plaque without heating wall tissue during pressure application by the balloon. The liquid that inflates the balloon preferably does not absorb any substantial microwave energy.. It is instead preferred that the energy be concentrated at the plaque rather than in the liquid itself that causes the balloon's expansion. (underlining added)"

In applicant's Claim 1, it is stated that the balloon is inflated so that an exterior surface of the balloon presses diseased tissue while the antenna transmits radiant energy to the diseased tissue thereby to effect the heating of the diseased tissue. Heating of diseased tissue is substantially different from heating of artery plaque and heating of diseased tissue to a temperature sufficient to cause ablation thereof is substantially different from heating of artery plaque to a temperature of 400°C.-500°C. to melt or ablate some of the plaque in an artery blocked by plaque without heating of artery wall tissue.

In view of the above remarks, it is applicant's position that the Examiner must have made a piecemeal selection of unrelated teachings of Kasevich et al. and a piecemeal selection of unrelated portions of Truckai et al. in the light of applicant's teaching in order to arrive at her finding that Claims 1-10 and 17 are unpatentable over Kasevich et al. further in view of Truckai et al. This is improper.

It is believed that this application is now in condition for allowance and such action is solicited.

Respectfully submitted,

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